



WHEEL HUB WITH CLUTCH

This is a continuation of application number 09/840,778, filed April 25, 2001, now Patent No. 6,644,452.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to wheel hubs and primarily bicycle type wheel hubs with clutches where the hub is free wheeling when torque is not being applied to the hub through a gear that is linked by a chain to a peddle arrangement, and will engage to transfer torque to a hub wheel when torque is applied to the peddle assembly.

2. Prior Art

Wheel hubs having clutches capable of free wheeling when a torque is not being applied thereto, as through a chain linked to a peddle arrangement, or like driving arrangement, but will engage to transmit torque to turn a hub wheel as generated by an operator turning such peddle arrangement are, of course, well known, and are in common use. For example, on bicycles that are directly driven through a single gear, or include multi-speed gearing. One such earlier hub design, that is believed to be the basic design of most earlier hubs for use with multi-speed gearing, is shown in FIGS. 1, 2A and 2B and is described as prior art in the Detailed Description portion of this application. This earlier hub, unlike the invention, is a ratchet type design that includes an annular ring gear that has its outer circumference secured to the inner wall of a hub body and includes teeth or notches formed around the ring gear inner circumference that slope in the direction of turning of the hub body when it is free wheeling, and includes pawls that are spring biased and are connected to extend outwardly at spaced intervals from around a peddle assembly that each have a tooth end. In free wheeling operations, the outwardly biased pawl

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Submitted 8/23/04

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